

## REMARKS

In the Office Action, the Examiner noted that claims 7-43 were misnumbered and should be renumbered as 6-42. As a result, the misnumbered claims have been renumbered.

The Examiner rejected claims 16-18 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In order to correct claims 16-18 and as suggested by the Examiner, claim 16 has been rewritten as an independent claim, dependent claim 17 has been amended to depend from claim 16 and claim 18 has been amended to depend from claim 17. It is respectfully submitted by the Applicants that claims 16-18 as amended are no longer indefinite.

The Examiner rejected claims 1-42 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14, 20-33, 39-60 of U.S. Patent No. 6,619,399. In order to overcome this rejection, a timely filed Terminal Disclaimer in compliance with 37 C.F.R. 1.321(c) accompanies this Response.

The Examiner rejected claims 1-4, 13-22, 31-34 and 42 under 35 U.S.C. § 102(b) as being anticipated by Michael (Publication No.: US 2001/0017223A1). In connection with this rejection, the Examiner stated that Michael discloses, in one embodiment, a foam drilling fluid or a foam well completion / workover fluid, and a method of preparing such a fluid comprising or admixing a foamable well fluid and compressed air having an oxygen content below that necessary to support combustion of hydrocarbons, as called for in independent claims 1 and 19 of the present application. Further, the Examiner stated that as per claims 2, 3, 20, 21 and independent claim 33, Michael discloses that the oxygen content of the compressed and treated air may be less than 10% or even less than 5% by volume oxygen which encompasses the ranges

of these claims. Also, the Examiner stated that in the embodiment of FIGS. 2 and 3 of Michael, the treated air stream (12) may be compressed either before or after the adsorption of oxygen therefrom, i.e., contact with the adsorbent or oxygen scavenger as called for in claims 4, 22, and 34. In addition, the Examiner stated as per claims 13-18, 31, 32, 33 and 42, it is deemed that the process embodiments or applications recited, such as drilling or stimulating the well, are all encompassed by both the drilling phase of Michael, as well as the “non-drilling applications”.

The Michael Publication discloses a method for enhancing gas or oil production by delivering a nitrogen rich gas produced from a non-cryogenic source into the well and/or reservoir where the gas and/or oil is located. The nitrogen rich gas is produced by removing at least a substantial portion of oxygen contained within a feed stream of air to produce an inert rich gas and an oxygen enriched waste gas and supplying the inert rich gas for use in applications such as drilling or stimulating a well. In order to remove oxygen from the air, Michael passes a feed stream of air through a membrane or a pressure swing adsorption system which preferentially separates nitrogen gas from other components of the air stream. Nothing in the Michael Publication suggests or discloses the use of an oxygen scavenger to remove oxygen from air so that the air can be used for foaming a foamable well fluid with reduced oxygen content compressed air. The reduction in oxygen in the compressed air prevents combustion of hydrocarbons when combined with the compressed air.

It is respectfully submitted by the Applicants that claims 1-4, 13-22, 31-34 and 42 are not anticipated by the Michael Publication. “A claim is anticipated only if each and every element as set forth in the claim is found in a single prior art reference.” Verdegaal Brothers v. Union Oil Company of California, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the...claim” and all of

the claim's elements must be "arranged as in the claim". Richardson v. Suzuki Motor Company, 868 F.2d 1226, 1236, 9 USPQ 2d 1913, 1920 (Fed. Cir. 1989). The Michael Publication fails to satisfy the foregoing requirements.

The Examiner rejected claims 5, 23 and 35 under 35 U.S.C. § 103(a) as being unpatentable over the Michael Publication and further in view of the SPE Paper 28978 to Walker et al. In addition, the Examiner rejected claims 6, 7, 24, 25 and 36 under 35 U.S.C. § 103(a) as being unpatentable over the Michael Publication. In addition, the Examiner rejected claims 8-12, 26-30 and 37-41 under 35 U.S.C. § 103(a) as being unpatentable over the Michael Publication as applied to claims 1, 19 and 33 and further in view of Chatterji et al. (U.S. Patent No. 6,063,738). The Examiner stated that Chatterji et al. discloses the use of a mixture of foaming and foam stabilizing surfactants in a well treatment or completion fluid, such as set forth in claims 8-12, 26-30 and 37-41.

The independent claims of this application as currently amended, i.e., independent claims 1, 16, and 19, all call for the air to be contacted with an oxygen scavenger to reduce the oxygen content to less than an amount required to support combustion of hydrocarbons. While the SPE Paper 28978 to Walker et al. utilizes an oxygen scavenger, the oxygen scavenger is used to prevent oxygen from degrading polysaccharide gels in fracturing fluids at high temperatures. Oxygen is unavoidably placed in fracturing fluids through dissolution of air. To prevent premature degradation of the fracturing fluid by the oxygen, an oxygen scavenger is commonly utilized in the fracturing fluid. Nothing in the SPE Paper to Walker et al. discloses or suggests that oxygen scavengers could or should be used to lower the oxygen content in air used to foam well fluids to less than an amount necessary to support combustion of hydrocarbons.

In order to satisfy a prima facie case of obviousness, the prior art must contain some teaching, suggestion or incentive that would have motivated an artisan to modify the reference. See, In re Fine, 837 F.2d 1071, 1074, 5 USPQ 2d 1596, 1598 (Fed. Cir. 1988). The prior art must teach or suggest all of the limitations of the claims without the slightest recourse to the teachings in the application. See, Amgen, Inc. v. Chugai Pharmaceutical Co., Ltd., 927 F.2d 1200, 18 USPQ 2d 1016 (Fed. Cir. 1991). The proper test is whether “the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of success.” In re Dow Chemical Co. vs. American Cyanamid Co., 837 F.2d 469, 473, 5 USPQ 2d 1529, 1531-32 (Fed. Cir. 1988). It is respectfully submitted by the Applicants, that the use of an oxygen scavenger in a fracturing fluid to prevent the degradation thereof as disclosed in the SPE 28978 Paper would not have suggested to one of ordinary skill in the art that the methods and foamed well fluid compositions of this invention could be carried out and would have a reasonable likelihood of success.

It is respectfully submitted by the Applicants that claims 1-3, 5-21 and 23-32 remaining in this application are in condition for allowance, and such allowance is respectfully requested. This is intended to be a complete response to the Office Action Mailed on November 26, 2004.

I hereby certify that this correspondence is being deposited in the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment; Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

  
Stephanie A. Bayliss

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Respectfully submitted,



C. Clark Dougherty, Jr.  
Registration No. 24,208  
McAFEE & TAFT  
Tenth Floor, Two Leadership Square  
211 North Robinson  
Oklahoma City, Oklahoma 73102  
405-235-9621 (Telephone)  
405-235-0439 (Facsimile)  
E-Mail: [clark.dougherty@mcafeetaft.com](mailto:clark.dougherty@mcafeetaft.com)  
Attorney for Applicants